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ORIGINAL RESEARCH ARTICLE

The Fictional Archetypes of AI: For a Qualitative-Quantitative Analysis of Representations in Films

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Abstract

MOS research on films has tended to focus on individual cases or series. In this article, we are proposing an approach that mobilizes background analysis, computational text analysis, and hermeneutics in order to provide a systematic, critically inclined analysis of a large corpus. We illustrate this approach by exploring the political and symbolical representations of artificial intelligence (AI) in the film industry. Using the Internet Movie Database, we identified all the films dealing with AI (113 in total), compiled their synopses, and recorded 11 characteristics for each. Highlighting the spatial, temporal, and gendered polarization of films depicting AI, our article proposes four representations of AI and critically reflects upon the role of these representations and their influence in shaping societal perceptions of AI. Our article makes two main contributions to the literature. First, it demonstrates the potential of combining quantitative-based, lexical forms of analysis with hermeneutic interpretations in the study of cultural representations. Second, it develops a nuanced, in-depth, and critical analysis of the symbolical and political representations of AI in cinematic productions, thus enhancing our understanding of this industry.

Keywords: *Artificial intelligence; Computational text analysis; Methods; Movies; Representations*

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Over the past 25 years, many have highlighted the interest of engaging with fiction in the exploration of organizational worlds, realities, and phenomena (Czarniawska-Joerges & Guillet De Monthoux, 2005; Savage et al., 2018). Fiction's ability to challenge and go beyond formalist and managerialist accounts of organizations (see De Cock, 2000; Knights & Willmott, 1999; Parker, 2002) may account for its growing popularity in MOSs. This engagement has entailed mobilizing different forms of fiction. Novels and literary works are a prime example (see Aroles et al., 2019; Culié et al., 2022; Munro & Huber, 2012). Films and TV series have also been used in many different contexts (see Miko-Schefzig et al., 2022), drawing from the capacity of 'popular culture to frequently parody the dominant conceptions of society and contemporary organization' (Grimand, 2009, p. 170).

Narrativization is 'a symbolic act' (Burke, 1989, p. 114) that frames the world in a certain way (O'Connor, 1995). With regard to technologies, film directors have, since the 1930s, imagined technological abundance. This has, in a way,

materialized with technological company being among the most profitable groups in the world, connected objects part and parcel of our daily lives and megalomaniac entrepreneurs investing in planetary artificial intelligence (AI), automated cars, transhumanism, or even the conquest of space. With facts and fiction seemingly intersecting, it seems important to carefully consider the role that fiction plays in the narrativization of an object and how it influences organizational practices (Czarniawska & Gustavsson, 2008; Fleming, 2019; Parker, 1998). For instance, Panayiotou (2010) critically analyzed how masculinity is constructed and performed in cinematic representations of work. Specifically, she demonstrated the relevance of films in understanding various phenomena occurring at the organizational and societal levels, emphasizing four main points: (1) contemporary capitalist economies are based on flows of information and symbols rather than material goods; (2) films are a more globalized media than many other forms of popular culture; (3) films, with their widespread popularity and accessibility, can teach practices and interpretive models that may

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have more influence on actual management practice than textbooks or other academic publications; and (4) films provide a descriptive account of lived experiences, much like interpretive research. The cinematographic culture, through its inscription in a specific time and political space, manifests itself concomitantly in popular culture and in its contestation.

Research on films, within the broad area of MOS, has tended to focus on individual cases (Parker, 2018; Sloane, 2002) or (TV) series (Agogu  & Sardais, 2019; Pullen & Rhodes, 2013; Rhodes & Brown, 2005). This is, in part, due to the preponderance of qualitative inquiry, making it strenuous to explore themes across a large corpus of productions. In the context of this article, we are concerned with developing ways of critically exploring a large data corpus. We propose to do so through an investigation into how AI is politically and symbolically represented in the film industry. One of the main aims of the article is to provide MOS researchers with a method to critically analyze a large volume of data concerning social representations in cultural industries (Debenedetti & Perret, 2022; Miko-Schefzig et al., 2022). Our article aims to address the two following, interdependent research questions: How is AI symbolically and politically represented in the film industry? How can we explore the political and symbolical representations of cinematic works?

To address these two questions, we used the Internet Movie Database (IMDb) to identify all the films dealing with AI. This resulted in a sample of 113 films. For each film, we compiled its synopsis (amounting to 565 pages of text overall) and recorded 11 dimensions. We then implemented a methodological approach, mixing quantitative and qualitative, that comprises two distinct yet interdependent stages. First, we used the textual data analysis software Alceste on our 113 film synopses to flesh out the main themes and issues connected to AI representations in the film industry. Second, we developed a symbolical and interpretative analysis of two major works considered, in the film industry, as foundational and emblematic when it comes to representations of AI.

Through our analysis, we highlight the spatial, temporal, and gendered polarization of films depicting AI, thus gaining a more thorough understanding of the context of AI representations in cinematic productions, paving the way for further, in-depth analysis. Our lexical analysis, performed with Alceste, enabled us to cluster our database of 113 films in six different classes – support, antagonist, relationship, production, rule, and institution – which represent different ways of depicting artificial life in cinematic productions. Building on these six classes, we propose four representations of AI, namely, support (individual for humanity), antagonist (individual against humanity), generated (system for humanity), and institutional (system against humanity). We then explore further some of these representations through our detailed hermeneutic exploration of two central films in the AI cinematic culture. Altogether, this allows us to

critically reflect upon the role of representations as well as their influence in shaping societal perceptions of AI. By extension, our article highlights the role that fiction can play in the perception and narrativization of a specific object, here AI, and of its influence on organizational practices.

Overall, our article thus makes two contributions to the literature. First, our article provides a thorough and detailed analysis of the symbolical and political representations of AI in cinematic productions, thus allowing us to delve into the nuanced ways in which fiction shapes societal perceptions inasmuch as societal values frame fiction. Second, from a methodological standpoint, our article illustrates the potential of mobilizing lexical analysis approaches to the study of MOS (DiMaggio, 2015; Tonidandel et al., 2018) and showcases how quantitative-based lexical forms of analysis can be combined with hermeneutic, qualitative interpretations (see Aranda et al., 2021). Through our mixed methodological approach, we can attend to the granularity of representations while adopting a somehow more holistic perspective on political and symbolical representations of AI in cinematic productions.

This article is structured as follows. Following this introduction, the second section presents the theoretical framework of this article. In the third section, we provide an overview of the methodology underlying the study, detailing the two stages that framed our approach. In the fourth section, we discuss our empirical findings, mirroring our two-stage methodological approach. The fifth section discusses the findings of our investigation with a focus on symbolism, representations, and methodological considerations. Finally, this article ends with a brief conclusion.

Theoretical framework

Representations and meanings in cinema

Since the 1970s, many film critics and theorists have delved into the technical, psychological, and even strategic dimensions of the cinematic universe (Creed, 1998; Penz & Lu, 2011; Roy & Yami, 2006), viewing cinema as ‘a set of interlocking institutional arrangements, components, and functions that create the spectator pleasures associated with watching a film’ (Recuber, 2007, p. 315). Cinema is a product of relationships, a coherent and closed system within which ‘everything is (already) connected to everything else’ (Massey, 2005, p. 11). By extension, a film should be viewed as ‘the arrangement of things in such a way that, by a certain number of means, such and such an end can be achieved’ (Foucault, 1991, quoted in Kaushik, 2017, p. 103). As such, while fiction can find itself in the service of dominant organizations and ideologies, it can also serve the critical imagination, allowing viewers to think outside established categories (Sayers et al., 2022).

Beyond the economic weight of the audiovisual sector, it is its influence in terms of representations and symbols that interests us here. Cinema is endowed with a 'democratizing power', visible through two main channels: first in terms of representations, allowing many to identify with characters featured on screen; second in terms of the heterogeneity of cinema audience, thus broadening the reach of cinematic representations and meanings. Analyzing 15 family films and 15 superhero blockbusters, Bauer et al. (2017) highlight the symbolic representations conveyed by American films, namely, the billionaire playboy genius who develops a conscience, the hero who saves his country at the expense of his own life, the damsel in constant distress, and the strong woman facing all trials. Parker (2008, p. 990) shows how Francis Ford Coppola's iconic *Godfather* includes and disseminates many connotations toward the mafia and society: 'the privileges of a high-ranking member of an organization, the obedience of subordinates, a masculine coolness in relation to violence'. In a similar line of thought, Griffin et al. (2017) have shown the impact of Disney's animations on the acquisition of gender stereotypes in children.

On the more political aspect of cinema, nations can be seen to be constituted and developed through the narratives they convey and the myths they share, and as such, the film industry participates 'intensely in the construction of an imagined community' (Dagnaud, 2011, p. 22). Some 'historically significant' film-producing nations managed to disseminate their culture through distinctive productions: American blockbusters, 'Bollywood', French arthouse cinema, and so on. Yet, over the years, the US has managed to develop and maintain a cultural and economic hegemony. The FOCUS (2020) report, *Trends in the World Film Market*, indicates that US film production accounts for 92.5% of the US and 69% of the European market share. Interestingly, while China and India represent the largest sales numbers (with respectively 1.727 and 1.561 billion tickets sold in 2019), their distribution remains mostly at the national level.

For Conesa (2018), by symbolically reproducing enemies, heroes, and narratives, cinema can be considered as a tool for the propagation of ideology and, as such, can act as an instrument of power favoring the organizations and states behind its production. The Hollywood film industry derives its power from its financial capacity and its ability to penetrate the domestic and international markets. Articulations among political powers, economic stakes, and cinematographic productions (Wang, 2017) are then visible through their capacity to simultaneously orient objects and angles of representation. Indeed, if cinema characterizes the technical device (cinematograph) that makes possible the production of movement through the projection of images, it allows, beyond conveying images, the projection of symbols, meanings, and ideas. This is this aspect that this article aims to explore through the case of AI.

The case of artificial intelligence

If it is to the writer Karel Čapek (2014 [1920]) that we owe the first mention of the word 'robot', it is Isaac Asimov who developed the robotic imaginary with, in particular, the three laws that have since governed fiction focused on this topic, namely, (1) a robot may neither harm a human being nor, by remaining passive, allow a human being to be exposed to danger; (2) a robot must obey orders given to it by a human being, unless such orders conflict with the first law; (3) a robot must protect its existence as long as such protection does not conflict with the first or second law. Continuing these reflections, Alan Turing questioned the possibility of AI through an imitation game in which a human engages in a blind conversation with a computer and with another human. If the person is not able to tell which of the two interlocutors is a computer, then the computer is seen to be intelligent (see Piccinini, 2000). This test can only judge the intelligence of a machine by comparing it to human behavior; as such, it does not directly determine whether the computer behaves intelligently, but rather if it behaves in a human manner.

The terminology of AI was introduced into the academic world by John McCarthy and Marvin Minsky in the 1950s, with AI at the intersection of many disciplines (Collins et al., 2021; Fuhrer, 2023; Pollock, 1990). Original thinking around AI was based on three fundamental beliefs: (1) a model representing an intelligent system can be defined explicitly; (2) knowledge in such a model is represented symbolically (graphs, logical formulas, symbolical rules), and (3) cognitive operations can be described as formal operations and structures belonging to a knowledge model (see Acquatella et al., 2022; Dubber et al., 2020; Flasiński, 2016). Research in the 1980s led to the development of a computational AI, embodying a connectionist approach premised on three principles: (1) numerical information is fundamental in representation of knowledge; (2) the processing of knowledge relies mainly on numerical computation; and (3) knowledge is not generally represented in an explicit way. The advent of large corporations as well as miscellaneous technological advances and successes ultimately fueled both the commercial and intellectual hype around AI (see Ashri, 2019; de Corbière et al., 2023; Fleming, 2019). Prevailing perceptions of AI do not exhaust its technical, transformative, critical, and philosophical potential and importantly rarely question how these perceptions reflect a legitimizing order; feeding the ever-growing hegemony of technological giants. This leads us to argue that the common understanding of AI is partial and would therefore benefit from a more holistic exploration.

If the perspectives opened up by Asimov, Turing, and information systems (IS) researchers have blazed the trails of computer and cognitive studies, they have also largely inspired the field of fiction, which could then, in the form of a feedback loop, inform conversations on AI in IS and more generally

MOS. As argued by Ingersoll and Adams (1992, p. 497), 'Within a seamless process, people, through their thoughts and behavior, continuously enact and construct social reality, the culture at large or national culture. At the same time, the culture at large, through a wide variety of social processes, shapes and molds people's thought and behavior'. As such, it 'pre-disposed us to think not only in terms of the power of cinematic imagery in shaping our conception of the reality, but also about the relationship between (any) reality and the re-presentations which prefigure our social constructions of (any) reality' (Oswick & Keenoy, 2001, p. 218). These issues have been explored in the representation of the mafia by McCarty (2004) and Parker (2008) and are reflected in the perception of AI which development has been shaped by fictions, just as the social realities and research of AI in recent decades have also influenced fictional representations in films. This imitation game, from fictitious portrayals to social representation, and vice versa, must then be analyzed both quantitatively and qualitatively to draw a large picture of it and its implications for MOS.

Exploring representations through computational text analysis

In MOS, films have been mobilized in various ways and to different ends. Empirically, management research, drawing from films, has either relied on single cases (Sloane, 2002) or on (TV) series, such as *The Simpsons* (Rhodes, 2001), *Beats Per Minutes* (Dorion et al., 2018), *Games of Thrones* (Agogué & Sardais, 2019), *Okja* (Acquier & Rehn, 2019), or *The Chair* (Prasad, 2023). This research has sought used to explore and sharpen specific management constructs through films. For instance, Szpirglas (2023) addresses fundamental aspects of management theory through *La casa de Papel* series, specifically highlighting how the plan to rob the Bank of Spain provides an opportunity to analyze the division of labor, the distribution of roles, the evolution of authority and legitimacy over time, and the consequences of remote management. Similarly, Parker (2018, p. 2) shows how the portrayal of the Agent 007 has changed over 30 years: 'He begins as an obedient organization man, while nowadays has become an employee who is often critical of the means and ends of the organization that he works for, even to the extent of going "rogue" to fulfill his mission'. The evolution of the character, portrayed on screen by eight different actors, raises questions about ethics, responsibility, and authority of secret agents and governmental agencies.

As such, films can be used to provide an alternative way of thinking about a specific, long-standing management concept (or construct) or mobilized to illuminate a particular empirical study. Films are thus either treated as empirical material per se or as (conceptual) support for the analysis of empirical data

gathered through interviews or ethnographic research for instance. Aside from research, within organizational behavior, on the reception of films by difference audiences, the overwhelming majority of MOS research drawing from films is qualitative and of an interpretative nature and 'we are thus still left with the issues of how to make film more prominent within organizational research' (Miko-Schefzig et al., 2022, p. 669).

While this research has undoubtedly generated valuable insights, we argue that the mobilization of computational tools and methods could open new avenues of thought by allowing us to explore large(r) corpuses. Our interest here lies specifically in advances in textual analysis, under the broad umbrella of content analysis (see Nelson et al., 2021). We follow DiMaggio (2015, p. 3) in his recommendation to adapt computational text analysis to social science (and vice versa); 'this is a great time for social scientists to get involved in computational text analysis, particularly in the case for automated text coding, where systematically flawed human judgment can deform the performance of learning algorithms, and, a fortiori, especially if algorithms incorporate, however inadvertently, judgments based on irrational prejudice'. The linguistic turn in MOS (see Alvesson & Kärreman, 2000) has paved the way for the mobilization of computational tools in the study of large amounts of textual data (see Anastasopoulos et al., 2020; Nande et al., 2023; Wiedemann, 2013), which we intend to use to explore AI representations in the film industry.

Our aim here is not to conduct a thorough review of the developments of computational methods in the analysis of large textual datasets in the field of MOS (see Hannigan et al., 2019 or Pollach, 2012 for such endeavors). Rather, we are concerned here with both illustrating how the use of computational methods can assist us in the exploration of organizational issues and exploring how quantitative-based lexical analysis approaches can be combined with hermeneutic interpretations in order to generate new insights, in particular when dealing with large corpuses. Specifically, we will do so by exploring meanings attached to and representations of AI in the film industry using the Alceste software, which has been scantily mobilized in the MOS literature (see Illia et al., 2014).

Methodology

Data collection and presentation: AI depictions in cinematic productions

To explore how the political and symbolical representations of AI in the film industry can both deepen our understanding of this industry, while also revealing sociocultural interpretations of AI, we first sought to systematically record all the films that have dealt with the topic of AI. To that end, we performed a search using keywords related to the broad themes of 'robots'

and 'artificial intelligence' on the IMDb. With references to millions of movies, IMDb is the largest and most comprehensive film database available (Gosselt et al., 2015; Panayiotou, 2010) with a wealth of information on films, including their production and distribution conditions, as well as their reception by audiences and critics. We decided to focus exclusively on cinematic productions. This does not mean that we underestimate the considerable weight of other types of production in the symbolical representation of AI. Rather, we sought to focus on cinematic productions only as they can be analyzed and compared through shared dimensions. Our search resulted in 113 films (see Appendix 1), which form the basis of our analysis.

For each of these 113 films, we carefully recorded 11 dimensions using two main sources. The first (<https://www.imdb.com>) presents information about films, actors, directors, scriptwriters, as well as all the individuals and companies involved in the making of the film. The second (<https://www.boxofficemojo.com>) provides information about distributors, release dates, genres, budget, and box office. As we gathered all this information, we could assemble a new database containing the following dimensions: (1) the title of the film; (2) the name of the director; (3) the gender of the director; (4) the distributor; (5) the cinematographic genre(s) of the film; (6) the nationality of the film (here we gave prevalence to the nationality of the director over that of the funding source); (7) the release date; (8) the budget of the film; (9) the domestic box office; (10) the world box office; and finally (11) the ratio domestic/world box office. This allowed us to explore trends and tendencies regarding cinematic depictions of AI in various contexts.

Data analysis: For a holistic approach to cinematographic representations

Our methodological approach consists of two interdependent and interconnected stages that we now present. The first stage of our research involved performing an analysis of the textual data (Cooren, 2004; O'Connor, 1995) of all the films in our database. Textual data analysis is an extension of qualitative methodologies, combining statistical methods with textual data (Carley, 1993). It 'aims to approach a text as a set of data made up of words and structured according to the rules of syntax and discourse organization (parts, paragraphs and sentences)' (Mothe et al., 2021, p. 16). To that end, we again used the IMDb to compile the synopses of all the films. Unlike a summary, the synopsis describes the development of the scenario and the main elements of the story. The repetition of words as well as word associations is seen to reveal hidden patterns in a text. The analysis of textual data covers different methods, such as lexical analysis, linguistic analysis, and cognitive mapping. Our study context led us to favor a lexical analysis (Dahlberg et al., 2023; Parkinson et al., 2018) since we place our research in the

framework of an exploratory approach, without presuppositions concerning the content of the studied material, thus remaining attentive to potential contextual effects. In addition, the size of our corpus and the desire to favor a 'neutral' observation of the text are further arguments justifying this choice. Content analysis performed through a lexical approach focuses on the vocabulary used to promote the emergence of discursive trends according to discriminating characteristic variables (Bolden & Moscarola, 2000).

Our analysis was carried out using the Alceste v.2017 software. Alceste, by means of statistical procedures, provides detailed analyses of corpuses and allows the extraction of the strongest signifying structures (Illia et al., 2014). The principle of lemmatization of textual data is the basis of lexical processing using the Alceste software. It consists in grouping words of the same family, which are then reduced to an entity called 'lemma'; for example, the forms 'is', 'are', and 'were' refer to the lemma 'to be'. During the first classification (hierarchical descending classification), several elementary context units (ECUs) are obtained, which allow us to define the number of classes (lexical worlds) and the level of relevance of this division. The second intra-class classification (which is an ascending hierarchical classification) is based on the measurement of the chi-square and allows for the emergence of the most significant words, by assessing the degree of significance of each word relative to its class. Lexical analysis does not automatically provide a good knowledge of the corpus studied, as certain 'lemmas' may have different interpretations. The analysis of the results and the meaning given to lexical extraction will therefore be closely linked to the researcher's knowledge of the latter. While computational analyses reveal classes (lexical worlds), it is the researcher's responsibility to determine the appropriate qualification for each class. Thus, even if it can help to categorize data in a systematic way, this type of analysis inevitably rests on the expertise of the researcher.

Through this approach, we can highlight the regularity and frequency of certain words. First, based on a hierarchical top-down classification, Alceste builds word classes (see Appendix 3, first image), which symbolize the main ideas and dominant themes of the corpus. Second, an ascending hierarchical classification is used to determine the strength of the links between the words, as well as their proximity or distance (see Appendix 3, second image). This processing method allows for the extraction of classes that constitute lexical worlds. The latter are constituted by the most significant words, expressions, and sentences, representing the dominant ideas and themes of the corpus. Our analysis and coding work then led us to transpose significant extracts into a table to order films vis-à-vis our emerging classes (see Appendix 2). Our corpus is finally composed of 3,957 ECUs, representing a relevance level of 73% (high level). The analysis brings out six classes of discourse. The analysis of 565 pages of screenplays revealed six categories that

we develop and present in the results: (1) AI as a support or (2) an antagonist of humanity, (3) AI generated by humanity and (4) its management by society, (5) AI as a systemic model, and (6) AI as an institutional model.

Data analysis: For an interpretative analysis of cult movies

We decided to complement this first stage with an interpretative analysis of works considered by critics as central in representations of AI and in the film industry more broadly (see Oswick & Keenoy, 2001). We chose Ridley Scott's *Blade Runner* (1982) and the Wachowskis' *The Matrix* (1999). Both films established important technical, esthetic, and intellectual codes for the film industry as a whole, with 19 nominations and 12 academic awards for *Blade Runner*, and 51 nominations and 42 awards for *The Matrix*. Both works have also become entrenched in a significant number of philosophical discussions (Spiegel, 2008) through their ability to stimulate critical debate on the past, present, and future of society. *The Matrix* (1999) playfully mobilizes a number of philosophical concepts with societal resonance (Badiou et al., 2003) retelling for some 'the story of Socrates, an intellectual hero who continued on his quest despite opposition and ultimately paid for his noble defiance with his life' (Irwin, 2002, p. 5), for others 'a naive fantasy of overcoming human flesh' (Freeland, 2002, p. 205), analyzing the liberation of the individual from an oppressive system, before showing 'the aporias of a liberal conception of freedom' (Paik, 2010, p. 131). Similarly, *Blade Runner* (1999) is commonly considered as 'the most visually dense, thematically challenging, and influential science fiction film ever made' (Shanahan, 2014, p. xi), essentially through its visual and symbolic treatment of complex themes such as the definition of humanity and consciousness, the notion of freedom and temporality (see Shanahan, 2014; Shanahan & Smart, 2019), but also because it provides a 'deeper criticism and understanding of the contemporary social, political, and cultural significance of postmodernism' (Flisfeder, 2017, p. 5) in the age of capitalism. A work whose prosperity goes beyond its textual content, since its influence on cinema and other artistic and cultural fields, is regularly analyzed (Brooker, 2006) as much as its process of production (Sammon, 2017).

Our intention here is 'to consider representations of organization, but in doing this it oscillates between using both "fictions" and "histories" as evidence' and we emphasize that 'other readings are possible' (Parker, 2008, p. 991). Moreover, this stage of the research extends the textual analysis with a symbolical approach to the action taking place behind the screen. By triangulating the cinematic representation of AI through a symbolical and interpretative analysis, we attempt to show how the cinematic production of AI influences how we perceive society, human relations, and role of organizations. Thus, if

the textual analysis examines the 'scenaristic' developments and lexical fields that shape spectators' perceptions of AI, the interpretative analysis highlights the symbolical and semiotic dimensions that construct moral significances and meanings (Burke, 1989; O'Connor, 1995). Ultimately, this is representative of the posture of the researcher/spectator who, faced with complex organizational phenomena, continually interweaves interpretative, socio-historical, and formal analysis (based on Phillips & Brown, 1993).

Results

Classifying the robots: A textual analysis of cinematic works representing AI

We analyzed the synopses of the 113 films that make up our database using the Alceste software and the previously described methodology. Overall, 73% of the textual units of the corpus are classified, showing a high level of relevance. The classified units are divided into six groups called classes of significant statements or simply classes. The detailed analysis is presented in the appendix (see Appendices 2 and 3).

The first class is the most specific of the corpus. It is the first to stand out in the classification tree, and its vocabulary presents the highest degree of homogeneity. It accounts for 22.11% of all classified textual units and is characterized by the following words: ship, fight, escape, rebel, battle, imperial, falcon, star, aboard, base, destroy, planet, troop, and reactor. We named this class 'support'. It mainly comprises films of the action-adventure genre and more particularly the Star Wars franchise (1977–2019). It is characterized by productions with a substantial budget and a high value at the box office. This class gathers films featuring multiple confrontations involving humans accompanied and supported by AI. The significant presence of the terms 'fight', 'escape', 'battle', and 'destroy' denotes a representation of humanity, organizations, and AI around warlike references, always oriented toward the hegemonic quest for more or less large territories. These representations awaken, in the viewer, a vision of AI as a tool at the service of humanity.

The second class represents the greatest number of classified textual units with 27.07%. It is characterized by the following words: grab, open, fire, door, shoot, gun, run, through, truck, pull, its, window, shot, into, and pistol. We named this class 'antagonist'. It is mainly made of the *Terminator* franchise (1984–2019), the film *Robocop* (1987), and the animation film 9 (2009), all of which are also part of the action-adventure film genre. The stories in this significant class are in the continuity of the previous ones, in the sense that they feature confrontations between AIs and humans. The spectator is thus invited to follow the tracking of Sarah Connor by the famous T-800 or to contemplate the democratization of robot warriors in police

and scientific stories. They portray AI mostly as an antagonistic entity threatening the survival of humanity. The significant presence of the terms 'catch', 'fire', 'shoot', 'gun', and 'run' fuels a pervasive confrontation between humans and their artificial enemies.

The third class accounts for 16.81% of the classified textual units, and its most significant words are year, human, replica, created, artificial, future, humanity, technology, was, earth, robot, creation, scientist, than, and world. We named this class 'relationship'. Unlike the previous classes, films are more varied in terms of genre, budget, and box office. They go beyond the confrontation between humans and machines to show the complexity of their relationships and their entanglements in more specific registers, such as horror and biopic. By putting the subject of AI as a construct at the center of the narrative, films belonging to this class question the causes of AI's development, rather than making it an antagonist entity deprived of a past. Whether it is the escape of the enslaved replicants in *Blade Runner* (1982), an uncontrollable scientific creation in *Morgan* (2016), the successive technological improvements of a large corporation in *Ghost in the Shell* (1995), or the humanoids of *The Day the Earth Stood Still* (1951), all of them question the hegemony of technological groups as well as the modes of production causing environmental disasters. The significant presence of the terms 'humanity', 'creation', 'artificial', 'future', 'year', 'technology', and 'earth' shows the relationship between humans and AI, as well as the consequences of the actions of humanity within its own environment.

The fourth class represents 13.95% of the classified textual units. It is marked by the following words: tell, if, know, does, enigma, coop, because, must, need, suggest, not, will, insist, should, and about. Its cinematographic representation is also more heterogeneous concerning the genre, the budget, and the box office. We named this class 'production'. The key productions in this class explore the missions undertaken by humans to avoid the collapse of society through an external or produced threat. This is notably the case of the films *Sunshine* (2007) and *Interstellar* (2014), which tell the story of our planet plunged into a serious food and climate crisis, making space exploration the only way forward for humanity. The particular case of *The Imitation Game* (2014) retraces the journey of Alan Turing and the major issues related to encrypted information. It is also interesting to find the film *Blade Runner* (1982), suggesting that the film questions as much the enslavement of replicants by humans as it does the hunting of androids by the policemen in charge of their capture. A managerial theme is reinforced by the signature presence of the words 'say', 'must', 'know', 'ask', and 'suggest'.

The fifth class represents 11.78% of the classified textual units and is marked by the following words: says, you, ask, what, matrix, answer, if, phone, he, say, fold, told, know, why, and your. We named this class 'rule'. This class is mainly composed of

productions made between the end of the 1990s and the beginning of the 2000s, and particularly by the *Matrix* trilogy (1999–2003). The Wachowskis' work is seen as a central piece in its ability to depict a bureaucratic system guided by algorithms and programs of all kinds that is reflective of society while trapping humans. In the same vein, the film *Eagle Eye* (2008) relates the adventures of characters under the orders of a vocal AI. The significant presence of the terms 'say', 'matrix', 'answer', 'telephone', 'if', and 'technology' shows the construction of a system dictating the behaviors and actions of individuals, and the preponderant place of technologies in such a system. In this respect, it is interesting to note the essential place that telephones occupy in these works, as real doors of exit and entry to the systems in question.

Finally, the sixth class that represents 8.28% of the classified textual units is marked by the following words: computer, states, system, soviet, president, project, united, secretary, government, virtual, major, school, gam, military, and simulate. We named this class 'institution'. This last class highlights the structuring and institutionalization of the relationship between humans and AI. The cinematographic representations propel AI into the set of constitutive institutions of contemporary societies. This is apparent in *Colossus: The Forbin Project* (1970), in which the government tries to coordinate and implement the defense of its country with the help of a supercomputer, or the army operation in *Wargames* (1983) with the development of a supercomputer predicting the possible outcomes of a nuclear war. The movie *Sleeper* (1973) keeps the institutional and political aspects to also address the place of science and medicine, while *2001: A Space Odyssey* (1968) questions the whole development of our societies, from inspiration through exploration to structuring. All these works highlight the coexistence of institutional issues with the development of technologies.

In addition, we performed a correspondence analysis (CA) to refine the analysis by organizing the film texts representing AI along two axes. Figure 1 provides a simplified spatial representation of the relationships between the different classes and allows us to visualize the oppositions and rapprochements between the various visions.

The horizontal axis represents the level of emergence, representation, and management of AI: on the right, a focus on the individual, and on the left, a focus on the system. The vertical axis represents the relationship of AI to humanity: at the top, a focus on the positive prospects for humanity, and at the bottom, the negative prospects. The CA thus shows a different positioning of films representing AI around the two axes. On the vertical axis, which represents 26% of the total dispersion, vision 1 entitled 'support' is located at the top right-hand corner (individual for humanity) and is thus diametrically opposed to vision 2 entitled 'antagonist' (individual against humanity) located at the bottom right-hand corner. On the horizontal

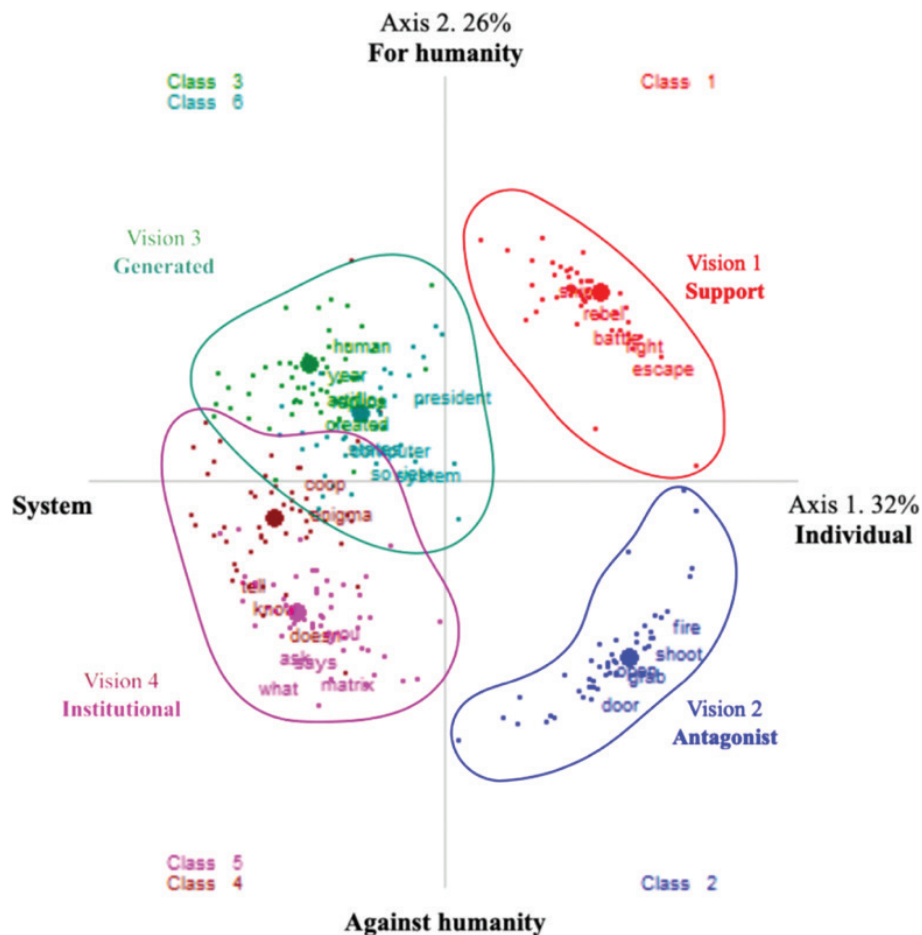


Figure 1. Correspondence analysis.

Source: own elaboration, based on Alceste Éducation, Image

axis, which accounts for 32% of the total dispersion, vision 3 entitled 'generated' is located at the top left-hand corner (system for humanity), which sometimes opposes and sometimes merges with vision 4 entitled 'institutional' (system against humanity) located at the bottom left-hand corner. By graphically representing the word classes which symbolize the dominant themes of our corpus and determining the strength of the links between the words, we were able to further draw from the potentials of computational methods to identify four main representations of AI by the film industry, producing its own social world inside and outside the screen.

Neither human nor machine: An interpretative analysis of robots

As indicated in the methodology section, the inclusion of the cinematographic and symbolical analysis in an interpretative perspective complements the textual and socio-historical approach to the case of AI represented by cinema. We thus propose here an interpretation of two major works – *Blade*

Runner (1982) and *The Matrix* (1999) – questioning the intertwining of individuals and systems (axis 1 of our textual analysis) as well as the relationship between humanity and AI (axis 2 of our textual analysis).

Blade Runner is a dystopian fiction film adapted from the novel by Philip K. Dick *Do Androids Dream of Electric Sheep?* (1968). The film takes place in a near future where the technology designed by the multi-conglomerate Tyrell Corporation has entered a sophisticated phase making robots not only almost identical to humans but also superior in strength and at least equal in intelligence. *Blade Runner* is a cinematographic proposal of anticipation, based on an extended and exacerbated vision of the contemporary world. The planet is densely populated, urbanism is gigantic, while the incessant rain and darkness reveal the exhaustion of the city. Futuristic blimps and blinding billboards constantly transmit advertising messages, and the Tyrell Corporation, directed from a huge pyramidal tower, overlooks the city. Thus, without making it a primary subject, *Blade Runner* proposes a world where capitalism is accentuated and omnipresent. As a recurring imagery in

science fiction, the city is polarized between a top (the skyscrapers, the distant high societies, etc.) and a bottom where humans are crammed into the background, playing the role of extras at the service of the big company. In this projected universe, the Tyrell Corporation has created replicants' synthetic beings whose purpose is to perform dangerous and difficult tasks, created without emotions, but capable of acquiring them. This gives them independence, the possibility to think for themselves and thus break out of their programming patterns – an ability deemed dangerous by humans who begin to hunt these emotional individuals. The replicants, hunted down by the humans, reveal their humanity at the same time as they question its substance. *Blade Runner* then proposes to bring two entities (humans and robots) together by questioning the very nature of humanity.

It is in its ability to question artificiality and humanity that *Blade Runner* draws all its symbolical power. As humans, facing death, we are so clinging to life that we sometimes accept miserable conditions or terrible behavior. Thus, the replicants, forced to live in hiding, under the threat of humans ransacking their own planet, also understand the meaning that can be given to life. Finally, humans and robots are looking for the same answers about life. Roy Batty's legendary monologue in his twilight years raises a big question: 'What is humanity?'; as he is left to let Deckard perish, Batty contemplates his prey, seems to understand the distress of his adversary and finally decides to save him. A gesture that will be interpreted as compassion, that of a human towards another human. But a robot can also save a life. [...] When he speaks before dying, it is to prove irrefutably to Deckard that he is the equal of a human. But he did not want to convince him, he wanted to move him. Like a swan song, Batty declaims a lyrical text before dying' (our translation, Chronik Fiction, 2019).

If *Blade Runner* proposes a world in which robots show humanity, it is quite different from the universe of *The Matrix*, which depicts a world without light, without energy resources: a world where humans have lost the battle against machines and are reduced to the state of batteries. *The Matrix* is a 1999 fictional film by the Wachowskis that depicts a dystopian future in which the reality perceived by most humans is in fact a virtual simulation called 'the Matrix', created by intelligent machines to enslave human beings, without their knowledge, and to use the heat and electrical activity of their bodies as a source of energy. We are projected into a future where cell phones are widespread, and the use of the Internet has reached its peak; it has become our reality. A double irony when the current perception of the Internet and social networks opposes them to the real world, and that the former is fed by the intellectual, physical, and energetic contributions of everyone. The vision proposed by the Wachowskis remains nevertheless a dystopia, where the survivors are parked in underground pipes and hunted by machines, while inside the

system, humans are tricked by programs in order to feed the matrix. The fiction proposes an extremely organized, hierarchical vision of the world, in which humans follow a program defined by machines. The matrix and its agents are able to define its architecture, the structuring of power, social relations, and even conceive its own critique. In this fictional universe, humans are then confused with programs.

The vision of AI proposed by *The Matrix* is negative. First, it is reduced to the scale of a program, executing a list of tasks without knowing its objectives or criticizing it, but it also ends up going beyond the will of humans to take control of them, reducing them in turn to the state of programs. Through this process, the film directors explore the excesses linked to the omnipotence of machines and their intelligence, as well as the dangers of an artificial humanity, without conscience or heart. The film has been the object of many philosophical analyses, with parallels made to Baudrillard's critique of society or Plato's myth of the cave (Keucheyan, 2006). Weber's sociological work also gives an interesting reading of the film on two levels. The matrix can be analyzed as a bureaucracy where order finds legitimacy and validity through enacted rules and the right of those elevated in authority to erect such rules and to give orders, whereas its contestation and questioning rest on the heroism or exemplary character of a single individual. This amounts to an endless loop, if we consider that the criticism is issued within its own system, serving only to amend it and to feed the beliefs of the most virtuous. Many, influenced or not by the Wachowskis' work, highlight the absorption of criticism by the dominant system; whether it is sustainable development, corporate social responsibility, responsible management, or alternative organizing. *The Matrix* is thus a complex philosophical and political work, which questions the relationship with technologies, the conception of humanity (consciousness, free will) as well as the organization of society; between a bureaucratic and regulated matrix; and a rebellious city clinging onto its hero.

Discussion

New methodological perspectives

Computational approaches to the study of organizations (Anastasopoulos et al., 2020; Tonidandel et al., 2018) are particularly insightful inasmuch as they can reinvigorate MOS scholarship by opening new avenues of research. In this article, we drew from such approaches, in the form of the textual analysis software Alceste, in order to highlight patterns in the ways in which AI is portrayed in cinematic productions. The thrust of our research lies mainly in the mobilization of computational text analysis (DiMaggio, 2015; Tonidandel et al., 2018) to explore the political and symbolical representations in the film industry of AI. The articulation of the results in three

interdependent moments – (1) the presence of AI depictions in cinematic productions, (2) the textual analysis of film synopses, and (3) symbolism and meanings in cinematographic masterpieces depicting AI – allows us to triangulate the narrative construction process of AI. It is the textual analysis that allows us to bring out the major representations of AI and its mechanisms (e.g., massive blockbusters from American producers), while the textual analysis of more critical works reveals complex visions interweaving organizations, social orders, and individuals for and against humanity.

The research approach developed in this article attempts to complement a qualitative and interpretative approach to films with a textual analysis of the texts used in the representation of AI, thus seeking to leverage the strengths of both quantitative and qualitative approaches to the study of pop culture representations and to the exploration of the intricate relation between fiction and organization studies. Our article aims to support efforts undertaken by MOS scholars mobilizing films as a pedagogical tool or empirical material (Martin & Tellier, 2022; Szpirglas, 2023), through an approach to textual analysis that seeks to capture the contents of films, their conditions of production or diffusion, and also the various layers of interpretations that surround them (Panayiotou, 2010; Miko-Schefzig et al., 2022).

Toward a critical analysis of films

This article is aligned with research looking at cinema as a configuration of political and managerial issues (Parker, 1998; Rhodes & Parker, 2008; Wood et al., 2018). Narratives in film play an important role in shaping societal perceptions of AI. Interestingly, many films favor spectacular special effects and a sensationalist esthetic over deeper, critical reflections of the complex relations framing interactions between individuals and technologies. On that point, Freedman (1998) notes that science fiction cinema, especially in the US, has often been considered as a practice of mass entertainment, referring the spectators to a more or less conservative and dominant ideology in force.

Fiction thus emerges as a narrative, developing a specific vision of the world through the prism of the camera, and as a very specific organizational and structural system, with its own modes of operation and purposes. According to Fairclough (1995, pp. 94–95), 'There is a dual relationship of discourse to hegemony. On the one hand, hegemonic practice and hegemonic struggle to a substantial extent take the form of discursive practice. [...] The second aspect of the dual relationship of discourse to hegemony is that discourse is itself a sphere of cultural hegemony'. As such, the focus of the film production coupled with the standardization of narrative structures and the symbols represented (omnipresence of large-scale organization, strong urbanization, division of labor; masculinity, etc.) highlights an ever-present dialectic between the event

represented and the structure of its representation (also highlighted in Oswick & Keenoy, 2001; Panayiotou, 2010). The story, both produced and projected, allows to share a very particular vision of the world and to learn from it, building and rebuilding the image of capitalism (Farias et al., 2021; Galluzzo, 2023), but always at the service of the dominant class (Conesa, 2018; Munslow, 1988), with the view of maintaining its hegemony.

This interplay between fiction and its structure is so tangible that it even allows itself to be represented, as in the case of the latest episode of *The Matrix Resurrections* (2021), which legitimizes, within its own narrative, the addition of a new episode to a story concluded two decades ago: 'things have changed, the market's tough. I'm sure you can understand why our beloved parent company Warner Bros has decided to make a sequel to the trilogy. [...] That's the thing about stories. They never really end, do they? We're still telling the same stories we've always told, just with different names, different faces'. Notwithstanding this, there are twisted effects of capitalism, 'fissures within hegemonic patterns' (Brickell, 2005, p. 40), which make it possible to envision, within its own remits, a space of freedom and new expression. It is thus insightful to look at the cinematographic dispositive, in its narratives and structures, to envisage alternatives to capitalism and even its overcoming (Conesa, 2018; Panayiotou, 2010).

Four representations of AI: Meanings and representations

In our study, the first two classes, mostly represented in action and adventure films, are very close textually and symbolically. They refer the spectators to the register of tactics and strategies that humans must put in place to face the AI, whether it is in the service of the contested order or the order itself. In both cases, the AIs represented are either a danger to humanity, becoming a secondary or even main antagonist of the plot, or a support for humanity helping to carry out a mission. All classes include major works exploring AI but escape from sensationalist blockbusters putting confrontations between humans and machines at the heart of the stories. They include symbolical works that are more critical of society and consumption patterns, by (re)positioning humanity at the center of its social and ecological drifts. Thus doing, they question the causes of the development of AI as much as the management of the crises humanity has gone through. They also position technologies as central elements of our social relations and our institutions.

With its ability to break laws, fiction also plays with its own rules, respecting or not Asimov's laws as the story unfolds, sometimes representing robots in the service of humanity, sometimes pursuing its downfall. It is therefore particularly relevant for organization studies to analyze human-machine relations and their impact on organizations and social relations

(Al-Amoudi, 2022; Fleming, 2019), and films lend themselves well to such analysis. In his cinematographic analysis of cyborgs, Parker (1998) shows that a happy end for robots implies their conversion to more humanity, and a tragic end to a mechanization of their actions. This observation is shared by Czarniawska and Gustavsson (2008), who also add the omnipresence of (mega)organizations – whatever the imagined societies – as an unavoidable horizon of the organization as an entity and process.

As such, the emphasis of fictional representations is important at a time when generative AI raises fears, fantasies, and many questions in the world of work and within the research community. Taking up visions 1 and 2 of our results, some see it as a formidable productivity tool and others as a threat to the integrity of research or the worker. See, for example, the AUNEGe webinar – ‘ChatGPT: Enemy or ally for higher education?’ on March 31, 2023 – which mobilizes, in its promotional poster, the same narrative imaginary as *Terminator* and *I, Robot*. Others fall under visions 3 and 4 and seek to reveal the conditions of its production, between the capture of data and its conditioning to many human activities and argue for the need for regulation by existing institutions of these new objects. See, for example, the interview of Antonio Casilli for LVSL (Laheurte, 2023), which mobilizes in its article a vision of the capitalist exploitation of robots and the precariousness of workers, referring to the narrative imagination of Neill Blomkamp (director of *District 9* and *Chappie*).

Conclusion

In this article, we endeavored to explore the intricate relation between films and organization studies through an investigation into how AI is politically and symbolically represented in the film industry. Cinema, as an ever-powerful cultural and industrial tool, has the technological and symbolic capacity to convey representations of the good, the bad, and the ugly (Conesa, 2018). Each of the 113 films we analyzed operates following one of those directions, constructing and shaping representations of AI. Our article makes two main contributions to the literature. First, it develops a nuanced, in-depth, and critical analysis of the symbolic and political representations of AI in cinematic productions, allowing us to delve into the intricate ways in which fiction influences and is framed by societal perceptions and values. Second, a methodological contribution by both illustrating the potential of mobilizing computational analysis approaches to the study of MOS (Anastasopoulos et al., 2020; DiMaggio, 2015; Tonidandel et al., 2018) and showcasing how quantitative-based lexical forms of analysis can be combined with hermeneutic, qualitative interpretations (see Aranda et al., 2021).

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Appendices

Appendix 1. Movies used for the analysis

9	Ex Machina	Resident Evil	Terminator Salvation
2001: A Space Odyssey	Existenz	Robocop (1987)	Terminator: Dark Fate
2010: The Year We Make Contact	Forbidden Planet	Robocop (2014)	The Black Hole
A.I. Artificial Intelligence	Ghost in the Shell (1995)	Robot & Frank	The Day the Earth Stood Still (1951)
Alien	Ghost in the Shell (2017)	Rogue One: A Star Wars Story	The Day the Earth Stood Still (2008)
Alien 3	Glenn, the Flying Robot	Simone (2002)	The Hitchhiker's Guide to the Galaxy
Alien: Covenant	Her	Screamers	The Imitation Game
Alien: Resurrection	I, Robot	Short Circuit 2	The Iron Giant
Aliens	Interstellar	Sleeper	The Lawnmower Man
Alphaville	Iron Man	Small Soldiers	The Thirteenth Floor
Astro Boy	Iron Man 2	Source Code	THX 1138
Autómata	Iron Man 3	Star Trek: The Motion Picture	Total Recall (1990)
Avalon (2001)	Lucy (2014)	Star Wars: Episode I – The Phantom Menace	Total Recall (2012)
Avengers: Age of Ultron	The Matrix	Star Wars: Episode II – Attack of the Clones	Transcendence
Batteries Not Included	The Matrix Reloaded	Star Wars: Episode III – Revenge of the Sith	Transformers
Bicentennial Man	The Matrix Revolutions	Star Wars: Episode IV – A New Hope	Transformers: Age of Extinction
Big Hero 6	Memories	Star Wars: The Rise of Skywalker	Transformers: Dark of the Moon
Blade Runner	Metropolis (1927)	Star Wars: Episode V – The Empire Strikes Back	Transformers: Revenge of the Fallen
Blade Runner 2049	Metropolis (2001)	Star Wars: Episode VI – Return of the Jedi	Transformers: The Last Knight
Castle in the Sky	Minority Report	Star Wars: The Force Awakens	Tron
Chappie	Moon	Star Wars: The Last Jedi	Tron: Legacy
Cherry 2000	Morgan (2016)	Stealth	Upgrade
Colossus: The Forbin Project	Oblivion	Summer Wars	WALL-E
Demon Seed	Pacific Rim	Sunshine	Wargames
District 9	Pacific Rim Uprising	Surrogates	Westworld
Eagle Eye	Passengers	Terminator	Yves
Edward Scissorhands	Prometheus (2012)	Terminator 2: Judgment Day	
Electric Dreams	Ready Player One	Terminator 3: Rise of the Machines	
Eva (2011)	Real Steel	Terminator Genisys	

Source: own elaboration

Appendix 2. Textual analysis coding scheme

Significant movie	Significant extract	Analytical category
Textual analysis for class 1		
Star Wars: Episode V – The Empire Strikes Back (1980)	(a) few walkers (are) (destroyed) but (the) (imperial) (forces) (eventually) overpower (the) (rebels) and (destroy) (the) generator powering (the) (energy) (shield), capturing (the) (rebel) (base). (han) (solo), (princess) (leia), (chewbacca), and (their) (droid) (C3PO), (flee) (on) (board) (the) (millennium) (falcon).	Class 1 'support'
Star Wars: Episode VI – Return of the Jedi (1983)	(the) (team), (led) (by) (han), will (use) a (stolen) (imperial) (shuttle) and confirmation code to (infiltrate) (the) (heavy) security measures protecting (the) construction site (before) (the) (rest) of (the) (rebel) (fleet) (arrives).	
Star Wars: The Force Awakens (2015)	(first) (order) is plotting to seize military (control) of (the) (galaxy). (a) (team) of (resistance) (fighters) (led) (by) general (leia) organa, (carrie) fisher, (are) planning an evacuation (from) (their) (main) (base) as supreme (leader)'s (forces) (are) coming for them.	
Rogue One: A Star Wars Story (2016)	(jyn) starts (the) (transmission), (sending) (the) (death) (star) (plans) to (the) (rebels). governor (tarkin) watches (the) carnage (from) (the) (space) (battle) and aims (the) (death) (star) at (the) (base) (on) (scarif). (while) (scarif) is about to be (destroyed), (the) (rebel) (fleet) (retreats) to note (the) sacrifice of (the) rogue one.	
Textual analysis for class 2		
Terminator (1984)	(sarah) is (finally) spotted by (the) (killer), which (aims) (its) (laser) sighted (pistol) (at) her: (reese) (fires) on (the) (killer), hitting him with (several) (blasts), knocking him to (the) (floor). (sarah) (sees) the (killer) impossibly (rise) to (its) (feet) (and) (open) (fire) on (reese) with the uzi (it) stole.	Class 2 'antagonist'
Terminator 2: Judgment Day (1986)	while the T-1000 reloads, the (terminator) (breaks) (open) (a) (door), (pushes) (john) to (safety), (and) marches (towards) the T-1000, (shooting) (it) repeatedly with (its) (shotgun). (it) isn't (until) the (terminator) (fires) (its) last (round) the T-1000 (finally) (falls) on (its) (back). (as) the (terminator) reloads (its) (shotgun) (and) (john) watches, the (large) metallic (holes) (its) (bullets) made (in) the T-1000's (chest) (suddenly) heal themselves.	
Robocop (1987)	(boddicker) (rushes) to the passenger (window), (shotgun) (in) hand (and) (fires) (at) (murphy), who (fires) (back) with both (pistols). (lewis) (drops) (back) (behind) the (truck), (and) (murphy) (opens) (fire) (again).	
9 (2009)	the (snake) (grabs) (hold) of her (and) 5 (suddenly) snaps (out) of his trance. he (shoots) the (snake) (in) (its) (one) (eye), (causing) (it) to retreat (and) slither (away) with 7 (and) 8.	
Textual analysis for class 3		
The Day the Earth Stood Still (1951)	(explaining) that (humanity)'s penchant for (violence) and first steps into space have (caused) concern (among) other inhabitants (of) the universe (who) have (created) and empowered a (race) (of) (robot) enforcers (including) gort to deter (such) aggression.	Class 3 'relationship'
Blade Runner (1982)	(following) a (violent) mutiny by (replicants) on (an) off (world) colony, the (androids) (were) outlawed on (earth). specialized police (units), (blade) runners, are charged (with) the difficult task (of) detecting (replicants) (who) illegally come to (earth).	
Ghost in the Shell (1995)	in the (near) (future), (humans) have (become) enhanced (with) cybernetic upgrades. hanka (robotics) (corporation) is the top company in (this) type (of) (technology), and is on the verge (of) developing a (new) (kind) (of) cyborg that uses a (human) brain to function.	
Morgan (2016)	lee then goes to meet dr. simon ziegler, (toby) jones, (who) (explains) to her the (creation) (of) morgan. (after) (two) failed (experiments), morgan (was) a (creation) (of) synthetic (life) that matured at a rapid rate (over) (six) (months), (where) she (now) maintains the appearance (of) a (young) (woman).	
Textual analysis for class 4		
Blade Runner (1982)	bryant (tells) deckard (that) (there) are (four) skin (jobs), the derogatory term (for) replicants, loose on the streets, and (he) (needs) deckard (to) retire them. deckard (suggest) (that) they (give) the (job) (to) holden, (but) bryant says they (already) (did) (that): (he) (can) breathe okay, as (long) as nobody unplugs (him).	Class 4 'production'
Sunshine (2007)	corazon calculates how (much) (oxygen) they (have) and how (much) they (need) (to) (complete) the (mission). she concludes (there) (is) (enough) (for) (four) of the five of them (to) live (to) (deliver) the payload. it (is) decided (mace) (will) kill trey (but) when (he) goes (to) carry out the (act), (he) finds trey has (already) committed suicide.	
The Imitation Game (2014)	at the beer (hut), (hugh) (tells) (alan) (that) (he) cracked the encrypted (message) ask and it shall (be) (given) you; seek and ye shall find. matthew 7:7. (he) (knows) (that) (alan) (is) (not) the (spy) (because) (he) (would) (not) (have) (used) a simple bible quote (for) his (code).	
Interstellar (2014)	mann (reveals) (to) (cooper) (that) the planet (is) uninhabitable and (that) (he) sent the signal (so) (he) (could) take cooper's spaceship (to) (return) (to) earth. (murph) (confronts) (tom) (that) (her) (father) (never) meant (to) (save) them, (but) escape and (leave) it up (to) (her) and (tom) outright (refuses) and (tells) (her) (to) (leave), (believing) it's his duty (to) take (care) of the (farm) (to) fulfill his (promise) (for) his (father).	

(Continued)

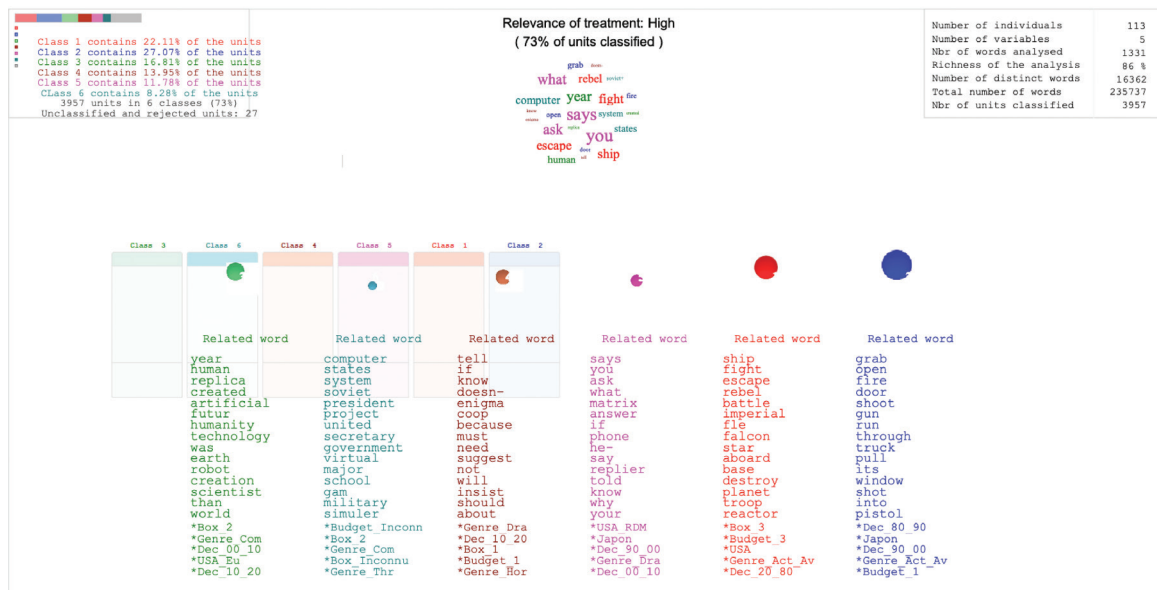
Appendix 2. (Continued)

Significant movie	Significant extract	Analytical category
Textual analysis for class 5		
The Matrix (1999)	(cypher) (asks) (neo) (if) (morpheus) (has) (told) him (why) (he's) (here). (neo) nods. (what) a mind job, (says) (cypher), so (you') (re) (here) to save the world. (cypher) is now in a fancy restaurant with (agent) (smith) in the (matrix). (agent) (smith) (asks) (if) (they) have a (deal).	Class 5 'rule'
The Matrix Reloaded (2003)	(if) (you') (re) (afraid) of (something). (I) just wish. (I) wish (I) (knew) (what) (I') (m) (supposed) to (do), that's (all). (I) just wish (I) (knew). (she's) gonna (call), don't worry, assures (trinity).	
The Matrix Revolutions (2003)	the (oracle) (asks) the (architect), (do) (I) have (your) (word)? the (architect) (answers) (what) (do) (you) (think) (I) (am)? human? the closing shot of the film depicts a new dawn on the world of the (matrix).	
Eagle Eye (2008)	(she) wants to (interrogate) jerry. morgan (says) (no). while (they) are (talking), a fax (comes) in from the attorney general ordering the FBI to authorize one (phone) (call) to jerry, after (he') (d) already been (told) he would get (no) (phone) (calls).	
Textual analysis for class 6		
2001: A Space Odyssey (1968)	(frank) catches some UV rays on a tanning bed and (watches) a (video) birthday greeting from (his) (parents). (hal) (also) wishes (frank) a happy birthday. (frank) and (hal) (play) chess (hal) (wins). (dave) sketches and (shows) (his) artwork to (hal). the (computer) expresses some concern about the mission and secrecy.	Class 6 'institution'
Wargames (1983)	mckittrick recommends that they take the men out of the loop and put (computer) software in the bunkers, with command of that software resting at NORAD. mckittrick (also) (shows) the officials the WOPR, (war) (operations) (programmed) (response), (computer), a supercomputer (system) that takes all incoming data from the NORAD (war) room and analyzes it, (creating) endless scenarios of (nuclear) (war).	
Sleeper (1973)	the (doctors) ask (miles) to help them learn about the aries (project), which they (suspect) is the (leader)' s plot to destroy their revolutionary movement, adding that miles' s (brain) will be reprogrammed if (his) (identity) is (revealed).	
Colossus: The Forbin Project (1970)	he makes a (brief) speech, then flies to washington, DC with the presidential (party). in the white (house), the (president) orchestrates a grand (announcement) to declassify (project) (colossus) totally and let the world know what the (united) (states) has built.	

Source: own elaboration

Appendix 3. Computational text analysis report

Analyzed text:	Film synopsis (1.29 Mb)	Synthesis report	Friday 25 March 2022 at 13:11
The Film synopsis corpus was analysed using the Alceste methodology. As shown below, 73% of the textual units of the corpus were classified (Relevance level: High), and 27% were rejected from the analysis. The classified units are divided into 6 groups which we call <i>classes of meaningful statements</i> or simply <i>classes</i>. Each class is numbered and coloured according to the order of appearance in the classification. We observe that the class 1 is the most specific, it is the first to stand out in the classification tree, its vocabulary is the most homogeneous, representing 22.11% of the classified textual units and characterised by words such as ship, fight, escape, rebel, battle, imperial. Next, the class 2 stands out, which represents 27.07% of the classified textual units: its significant words are grab, open, fire, door, shoot, gun. It is followed by the class 3 which represents 16.81% of the classified textual units: its significant words are year, human, replica, created, artificial, futur; then the class 4 which represents 13.95% of the classified textual units, marked by the words tell, if, know, doesn't, enigma, coop; then the class 5 which represents 11.78% of the classified textual units, marked by the words says, you, ask, what, matrix, answer; then the class 6 which represents 8.28% of the classified textual units, marked by the words computer, states, system, soviet, president, project. A detailed reading of this report highlights the guidelines of the corpus analysed.			



Class 1
This class consists of 875 units, i.e. 22.11% of the units classified. The significant words in this class are terms such as **fight, escape, rebel, battle, imperial**, **ship**.

Significant words

Extract of units according to significant words

Cloud and networks

Presences	X ²	Number
ship	212	227
fight	177	127
escape	165	127
rebel	151	48
battle	146	75
imperial	144	56
file	135	61
falcon	135	54
star	120	72
aboard	89	36
base	85	54
destroy	84	74
planet	82	79
troop	79	30
reactor	78	29
attack	76	87
manage	72	72
resistance	70	41
force	62	46
pilot	62	46
rebels	62	25
energy	60	32
sentinel	60	41
by	57	330
crew	55	74
surface	54	28
millennium	54	18
landing	53	19
attempt	52	71
atmosphere	52	22
drone	50	39
destroying	50	26
*Box 3	177	506
*Budget 3	116	422
*USA	96	747
*Genre Act Av	76	813
*Dec 20_80	31	161
*Dec 10_20	28	316
*Budget 2	0	404
*Box Inconnu	0	10

Absences	X ²	Number
she	-70	70
her	-57	91
says	-54	4
ask	-40	8
what	-38	13
tell	-35	44
*Budget 1	-130	44
*Box 1	-85	34
*Dec 90_00	-48	81

A few walkers are destroyed but the **imperial forces** eventually overpower the **rebels** and **destroy** the generator powering the **energy** shield, capturing the **rebel** **base**. han solo, princess leia, cheebacca, and their droid C 3PO, anthony daniels, **file** on board the **millennium falcon**.

* jyn starts the transmission, sending the death **star** plans to the **rebels**. as the plans are received, the death **star** arrives from hyperspace. governor tarkin watches the carnage from the space **battle** and aims the death **star** at the **base** on scarif. while scarif is about to be destroyed, the **rebel fleet** retreats to note the sacrifice of the rogue one

* in space, han discovers that the falcon's hyper drive is damaged and it cannot **escape** the **imperial** blockade in space. during the confusion, they enter the nearby hoth asteroid field, pursued **by** four **imperial TIE fighters**; han solo **pilots** the **millennium falcon** deeper into the field, and the four pursuing **fighters** are destroyed **by** the flying rocks.

* during the **battle**, **rebel** spies **managed** to steal secret plans to the empire's ultimate weapon, the deathstar, an armored space station with enough power to **destroy** an entire **planet**.

* the team, led **by** han, will use a stolen **imperial** shuttle and confirmation code to infiltrate the heavy security measures protecting the construction site before the rest of the **rebel fleet** arrives.

* meanwhile, commanders of the **rebel** alliance, led **by** mon mothma, genevieve o'reilly, a senator of the old republic senate turned **imperial** senate, discuss the empire's plan to create a giant weapon capable of **destroying** entire **planets**.

* the opening crawl from this latest film' **star wars**, episode VIII: the last jedi' reads that the first order is plotting to seize military control of the galaxy. A team of **resistance fighters** led **by** general leia organa, carrie fisher, are planning an evacuation from their main **base** as supreme leader snoko's, andy serkis, **forces** are coming for them

* the frame moves down in the **star** field and we see a pitched **battle** between two starships in orbit around the desert **planet** of tatooine. A small **rebel** blockade runner, the tantive IV, is being pursued **by** a mammoth **imperial** **star** destroyer, the devastator

* in this sequel to the previous **star wars** movie, episode IV: A new hope, the opening crawl reveals that after the destruction of the death **star**, the **rebels** were forced to evacuate their **base** on the yavin moon and the dreaded **imperial fleet** of the galactic empire has pursued the **rebel** alliance across the galaxy,

* the first order begin **landing troops**, including kylo ren's V winged **ship**. maz gives the lightsaber to finn. as the stormtroopers **attack** finn uses the lightsaber to **fight** back, but is knocked down **by** another stormtrooper, unnamed, but popularly referred to as TR 8R

* as they chase after the **fighter** to keep it from notifying the empire of their

grab,

Cloud and networks

[illegible]

year,

Cloud and networks

[illegible]

